A2.2

# Network architecture

CHAPTER ASSIGNMENT · 15 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from the Guru Jazzy chapter page, for classroom use.

## Exam-style questions

1. Outline three benefits of a star topology for a small office. [3]

2. A rescue service needs a network that keeps working after any one link fails. Justify a mesh topology. [3]

3. Explain one disadvantage of peer-to-peer for online banking. [2]

4. Compare client-server and peer-to-peer networking. [4]

5. Explain how VLANs improve a school network. [3]

## Chapter quiz

**Q1** What happens if the switch in a star network fails?

| A | B | C | D |
|---|---|---|---|
| Only one node stops | The whole network stops | Nothing | It becomes a mesh |

**Q2** How many links does a full mesh of 5 nodes need?

| A | B | C | D |
|---|---|---|---|
| 5 | 10 | 20 | 25 |

**Q3** Which topology suits a large campus with reliable backbone links?

| A | B | C | D |
|---|---|---|---|
| Star | Hybrid | A single cable | PAN |

**Q4** Which model would you avoid for online banking?

| A | B | C | D |
|---|---|---|---|
| Client-server | Peer-to-peer | Neither | Both |

**Q5** Which is a benefit of peer-to-peer?

| A | B | C | D |
|---|---|---|---|
| Central backups | No single point of failure | Guaranteed availability | Easy to patch |

**Q6** Which best describes network segmentation?

| A | B | C | D |
|---|---|---|---|
| Splitting a network into smaller logical parts | Cutting cables | Adding more routers to the internet | Compressing files |

**Q7** A VLAN is...

| A | B | C | D |
|---|---|---|---|
| A logical network on shared hardware | A type of cable | A faster Wi-Fi | A virus |

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**Q8** With a /24 mask, are 192.168.0.5 and 192.168.1.5 on the same subnet?

| A | B | C | D |
|---|---|---|---|
| Yes | No | Only at night | Cannot be known |

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**Q9** Which server turns www.example.com into an address?

| A | B | C | D |
|---|---|---|---|
| DHCP | DNS | Mail | File |

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**Q10** A reverse proxy acts on behalf of...

| A | B | C | D |
|---|---|---|---|
| Servers | Clients | Routers | Printers |

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**Q11** What does RAID do?

| A | B | C | D |
|---|---|---|---|
| Combines disks into one logical unit | Encrypts emails | Assigns addresses | Cools servers |

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**Q12** What does SPF let a domain owner do?

| A | B | C | D |
|---|---|---|---|
| Name the servers allowed to send its mail | Compress email | Block all attachments | Sort inboxes |

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End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/ib-computer-science/a2-2-network-architecture/